Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Rural Digital Opportunity Fund	)	WC Docket No. 19-126
	)	
Connect America Fund	)	WC Docket No. 10-90

REPLY COMMENTS OF THE SATELLITE INDUSTRY ASSOCIATION

The Satellite Industry Association ("SIA") submits these Reply Comments in response to the Federal Communications Commission's ("FCC" or "Commission") Notice of Proposed Rulemaking proposing to create the Rural Digital Opportunity Fund ("RDOF").[1] SIA is a U.S.-based trade association providing representation of the leading satellite operators, service providers, manufacturers, launch services providers, remote sensing operators, and ground equipment suppliers. SIA is the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business.[2,3] As discussed below, SIA supports a technologically and competitively neutral approach to RDOF funding. SIA urges the Commission to revise its proposed penalties for the second latency tier so that the bidding framework does not undermine the success of the auction or unfairly discriminate against certain

[1] *Rural Digital Opportunity Fund, Connect America Fund*, WC Docket Nos. 19-126, 10-90, Notice of Proposed Rulemaking, FCC 19-77 (rel. Aug. 2, 2019) ("*NPRM*").

[2] SIA Executive Members include: AT&T Services, Inc.; The Boeing Company; EchoStar Corporation; Intelsat S.A.; Iridium Communications Inc.; Kratos Defense & Security Solutions; Kuiper Systems LLC; Ligado Networks; Lockheed Martin Corporation; OneWeb; SES Americom, Inc.; Space Exploration Technologies Corp.; Spire Global Inc.; and Viasat, Inc. SIA Associate Members include: ABS US Corp.; Airbus Defense and Space, Inc.; Analytical Graphics, Inc.; Artel, LLC; Blue Origin; Eutelsat America Corp.; ExoAnalytic Solutions; Globalstar, Inc.; Glowlink Communications Technology, Inc.; HawkEye 360; Hughes; Inmarsat, Inc.; Kymeta Corporation; Leonardo DRS; Lynk; Omnispace; Panasonic Avionics Corporation; Peraton; Planet; Speedcast Government; SSL; Telesat Canada; and XTAR, LLC.

[3] These comments are supported by all SIA members except for AT&T Services, Inc., which abstains from participation.

technologies. SIA also supports the adoption of rules for the RDOF that appropriately account for and support innovative hybrid offerings,[4] as more and more service providers rely on multiple technologies to support the provision of broadband, voice, and other services to end users.

SIA has long supported the Commission's goal of ensuring that federal support mechanisms are competitively and technologically neutral.[5] The Commission appropriately recognizes the importance of continuing to pursue that goal in the NPRM.[6] The Commission should reject anticompetitive calls that the Commission reverse its position and resort to outright bans on certain technologies.

In addition to the issues with technology neutrality, the proposed second latency tier penalty increase from 25 points in the Connect America Phase II Auction ("CAF II") to 40 points in the RDOF would significantly impair—if not eliminate—the ability of geostationary satellite ("GSO") providers to participate meaningfully in the auction by placing competitive bids and is unnecessary for many applications.[7] While satellite providers operating in low and medium Earth orbits (non-geostationary satellite or "NGSO") can provide services with latency on par with terrestrial networks, the record demonstrates that a high penalty would prevent GSO providers from winning support in areas where no other type of operator bids (potentially leaving large areas unserved by high-speed broadband) and from constraining bids in competitive areas (thus driving up support costs to supra-competitive levels).[8] Moreover, as the comments make

[4] *See* Comments of Big River Communications, WC Docket Nos. 19-126, 10-90 (filed Sep. 20, 2019) ("Comments of Big River") at 2-3; *see also* Comments of Viasat, Inc., WC Docket Nos. 19-126, 10-90, at 24 (filed Sep. 20, 2019) ("Comments of Viasat").
[5] *See e.g.* Comments of SIA, WC Docket Nos. 10-90, 18-143, 14-58 (filed July 26, 2018).
[6] *See NPRM* ¶ 23.
[7] *See* Comments of USCellular, WC Docket Nos 19-126, 10-90 (filed Sep. 20, 2019) at 5-8; *see also* Comments of Viasat at 6-23; Comments of Hughes at 3.
[8] *See, e.g.*, Comments of Viasat at 6-10; Dr. Paul Milgrom and Dr. Ilya Segal, "Lessons from the CAF II Auction for the RDOF Auction," at 2-4, attached as Exhibit A to Comments of Viasat.

clear, a significant portion of Internet traffic is not latency-sensitive. As an alternative to a latency metric, the Commission has adopted a Mean Opinion Score ("MOS") approach to ensure the quality of VoIP calls.[9]

The proposed penalty increase would substantially undermine the core goals of the RDOF auction: to expand access to broadband services "in an efficient and cost-effective manner."[10] Providers in the second latency tier would face an unacceptable competitive disadvantage vis-à-vis terrestrial and NGSO providers that are able to secure federal support without prohibitive bidding penalties. To avoid this, the Commission should reduce its proposed latency penalty consistent with its longstanding policy of fostering competitive neutrality in awarding federal support.[11]

Similar considerations justify revising the NPRM's proposed rules to better account for the benefits of hybrid technologies. As the record demonstrates, broadband providers are increasingly implementing hybrid systems that can route traffic dynamically along links employing multiple different technologies in a manner that optimizes the end-user experience. As Big River Communications points out, broadband providers utilizing hybrid technologies rely on "advanced algorithms that intelligently use the multiple-paths to deliver the required performance, capacity and coverage to users for the type of data that is being delivered."[12] Viasat has described its development of "a hybrid solution that exemplifies the benefits of such offerings and ensures that each type of Internet traffic travels over a network path that is best

[9] *See generally Connect America Fund*, WC Docket No. 10-90, Order on Reconsideration, DA 19-911 (rel. Sept. 12, 2019) (stating that all high latency support recipients must meet a MOS of four for voice services).
[10] *NPRM* ¶ 12.
[11] *See Federal-State Joint Board on Universal Service*, Report and Order, 12 FCC Rcd 8776 ¶ 47 (1997).
[12] Comments of Big River at 3.

suited for that traffic"—by, among other things, routing latency-sensitive traffic over low-latency links.[13]

While the Commission has often stated that it welcomes bids that rely on hybrid technologies,[14] the rules governing such bids make it very difficult in practice to pursue federal support using hybrid technologies. Historically, and under the proposed rules, a provider who bids using hybrid technologies must meet the speed/latency requirement of a particular tier 95 percent of the time to qualify for that tier. But this use of a single, inflexible measurement does not account for the ability of hybrid technologies to use multiple paths with different performance attributes to optimize the end-user experience.

The Commission should adopt a more flexible approach that recognizes the benefits of the technologies utilized in the hybrid network. In this case, the Commission could, for instance, consider modifying the 95 percent requirement such that, if a provider meets the MOS requirement for VoIP service and routes other latency-sensitive traffic over low-latency links 95 percent of the time, it is deemed to satisfy the low latency threshold for bidding purposes.[15]

By amending the rules to facilitate bidders' use of hybrid technologies to participate in the RDOF and meet performance metrics, the Commission would increase the pool of providers that could bring innovative services to consumers by putting providers that use these technologies in a more competitive position to bid in the auction and bring these innovative services to users. Accordingly, SIA supports Commission adoption of rules that reflect the realities of, and allow for effective bidding using, hybrid systems. By implementing a hybrid-

[13] Comments of Viasat at 25-27.
[14] *See, e.g.*, *Connect America Fund*, Public Notice, 33 FCC Rcd 1428, 1452 n.133 (2018) ("An applicant may propose to use different technologies within a state and use hybrid networks to meet its Phase II public interest obligations."); *NPRM* ¶ 72 (proposing to allow "an applicant to use different technologies within a state and use hybrid networks to meet its public interest obligations").
[15] Comments of Viasat at 25.

friendly approach, the Commission will ensure that its RDOF auction framework appropriately accounts for the emergence of hybrid networks and will enable the use of these networks to bring advanced, high-quality broadband service to users, wherever they are located. As more providers are able to participate effectively in the auction and submit competitive bids, more locations will be served and at lower cost to the RDOF program.

Conclusion

SIA urges the Commission to adopt the proposals herein with regards to latency and hybrid technologies. Through the modifications to proposed latency rules as discussed above, the Commission will continue to adhere to its longstanding policies of technology and competitive neutrality. Further, by amending the rules to incorporate hybrid technologies, the Commission will allow for more technologies to effectively bid, resulting in more locations served at a lower cost to the RDOF program.